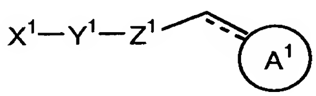
CLAIMS

1. A pharmaceutical composition exhibiting thrombopoietin agonism which contains as an active ingredient a compound of the formula (I):



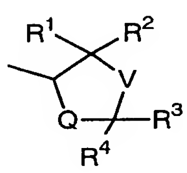
(I)

wherein X^1 is optionally substituted aryl, optionally substituted aralkyl, optionally substituted heteroaryl, optionally substituted heteroarylalkyl, or optionally substituted non-aromatic heterocyclic group;

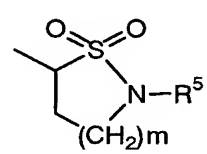
Y^1 is $-NR^ACO-(CH_2)_{0-2}-$, $-NR^ACO-(CH_2)_{0-2}-W-$, $-NR^ACO-CH=CH-$, $-W-(CH_2)_{1-5}-NR^ACO-(CH_2)_{0-2}-$, $-W-(CH_2)_{1-5}-CONR^A-(CH_2)_{0-2}-$, $-CONR^A-(CH_2)_{0-2}-$, $-(CH_2)_{0-5}-NR^A-SO_2-(CH_2)_{0-5}-$, $-(CH_2)_{0-5}-SO_2-NR^A-(CH_2)_{0-5}-$, $-NR^A-(CH_2)_{0-2}-$, $-NR^A-CO-NR^A-$, $-NR^A-CS-NR^A-$, $-N=C(-SR^A)-NR^A-$, $-NR^ACSNR^ACO-$, $-N=C(-SR^A)-NR^ACO-$, $-NR^A-(CH_2)_{1-2}-NR^A-CO-$, $-NR^ACONR^ANR^FCO-$, or $-N=C(-NR^AR^A)-NR^A-CO-$, wherein R^A is each independently a hydrogen atom, optionally substituted lower alkyl, optionally substituted aryl, optionally substituted aralkyl, optionally substituted heteroaryl, or optionally substituted heteroarylalkyl, R^F is a hydrogen atom or optionally substituted aryl, W is an oxygen atom or a sulfur atom;

Z^1 is optionally substituted arylene, optionally substituted heteroarylene, optionally substituted non-aromatic heterocycle-diyl, or optionally substituted cycloalkyl-diyl;

A^1 is a ring represented by the formula:



or



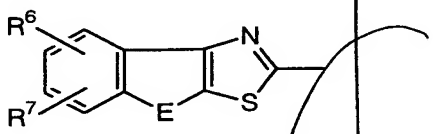
wherein R^1 and R^2 are both hydrogen atoms or taken together may form an

oxygen atom or a sulfur atom; R^3 and R^4 are both hydrogen atoms or taken together may form an oxygen atom or a sulfur atom; R^5 is a hydrogen atom or lower alkyl; Q and V are each independently -O-, -S-, -NR^B- (wherein R^B is a hydrogen atom or lower alkyl), or -CH_2-; m is 1, 2, or 3;

a broken line (---) represents the presence or absence of a bond,

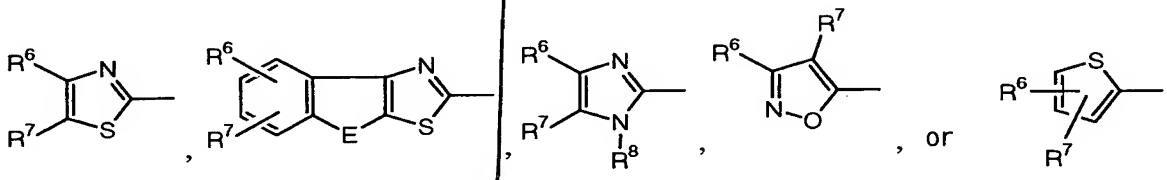
its prodrug, or their pharmaceutically acceptable salt, or solvate thereof.

2. A pharmaceutical composition exhibiting thrombopoietin agonism which contains a compound of claim 1, wherein X^1 is optionally substituted 5-member heteroaryl or a group represented by the formula:



wherein E is -$(CH_2)_{1-3}$-, -O-CH_2-, or -S-CH_2-; R^6 and R^7 are each independently a hydrogen atom, optionally substituted lower alkyl, carboxy, lower alkyloxycarbonyl, optionally substituted aminocarbonyl, optionally substituted thienyl, or optionally substituted phenyl.

3. A pharmaceutical composition exhibiting thrombopoietin agonism which contains a compound of claim 1, wherein X^1 is a group represented by the formula:

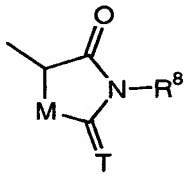


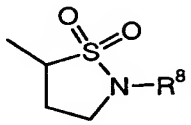
wherein E is -$(CH_2)_{1-3}$-, -O-CH_2-, or -S-CH_2-; R^6 and R^7 are each independently a hydrogen atom, optionally substituted lower alkyl, carboxy, lower alkyloxycarbonyl, optionally substituted aminocarbonyl, optionally substituted thienyl, or optionally substituted phenyl; R^8 is a hydrogen atom or lower alkyl.

4. A pharmaceutical composition of any one of claims 1 to 3, wherein Y^1 is -NHCO-, -CONH-, -$NHCH_2$-, or -$NHSO_2$-.

5. A pharmaceutical composition of any one of claims 1 to 4, wherein Z^1 is 1,4-phenylene.

6. A pharmaceutical composition of any one of claims 1 to 6, wherein A^1 is a ring represented by the formula:



or


wherein R^8 is a hydrogen atom or lower alkyl; M is -S-, -O-, -N(R^c)-, or -CH_2- (wherein R^c is a hydrogen atom or lower alkyl); T is an oxygen atom or a sulfur atom.

7. A pharmaceutical composition of any one of claims 1 to 6, wherein the broken line represents the presence of a bond.

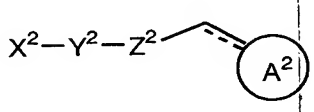
8. A pharmaceutical composition of any one of claims 1 to 7,which is for treating or preventing hemopathy.

9. A pharmaceutical composition of any one of claims 1 to 7, which is a platelet production modifier.

10. Use of a compound of any one of claims 1 to 7 for preparation of a pharmaceutical composition for treating hemopathy.

11. A method for treating hemopathy of a mammal, including a human, which comprises administration to said mammal of a compound of any one of claims 1 to 7 in a pharmaceutically effective amount.

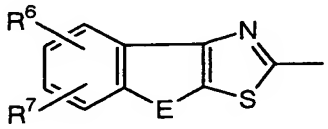
12. A compound represented by the formula (II)



(II)

wherein X^2 is optionally substituted 5-member heteroaryl or a group

represented by the formula:



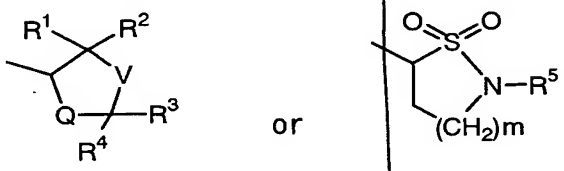
wherein E is $-(CH_2)_{1-3}-$, $-O-CH_2-$, or $-S-CH_2-$; R^6 and R^7 are each independently a hydrogen atom, optionally substituted lower alkyl, carboxy, lower alkyloxycarbonyl, optionally substituted aminocarbonyl, optionally substituted thienyl, or optionally substituted phenyl;

Y^2 is $-NR^GCO-(CH_2)_{0-2}-$, $-NR^GCO-(CH_2)_{0-2}-W-$, $-NR^GCO-CH=CH-$, $-W-(CH_2)_{1-5}-NR^GCO-(CH_2)_{0-2}-$, $-W-(CH_2)_{1-5}-CONR^G-(CH_2)_{0-2}-$, $-CONR^G-(CH_2)_{0-2}-$, $-(CH_2)_{0-5}-NR^G-SO_2-(CH_2)_{0-5}-$, $-(CH_2)_{0-5}-SO_2-NR^G-(CH_2)_{0-5}-$, $-NR^G-(CH_2)_{0-2}-$, $-NR^G-CO-NR^G-$, $-NR^G-CS-NR^G-$, $-N=C(-SR^G)-NR^G-$, $-NR^GCSNR^GCO-$, $-N=C(-SR^G)-NR^GCO-$, $-NR^G-(CH_2)_{1-2}-NR^G-CO-$, $-NR^GCONR^GNR^FCO-$, or $-N=C(-NR^GR^G)-NR^G-CO-$,

wherein R^G is each independently a hydrogen atom or optionally substituted lower alkyl, R^F is a hydrogen atom or optionally substituted aryl, W is an oxygen atom or a sulfur atom;

Z^2 is optionally substituted phenylene, optionally substituted 2,5-pyridine-diyl, optionally substituted 2,5-thiophene-diyl, or optionally substituted 2,5-furan-diyl;

A^2 is a ring represented by the formula:



wherein R^1 and R^2 are both hydrogen atoms or taken together may form an oxygen atom or a sulfur atom; R^3 and R^4 are both hydrogen atoms or taken together may form an oxygen atom or a sulfur atom; R^5 is a hydrogen atom or

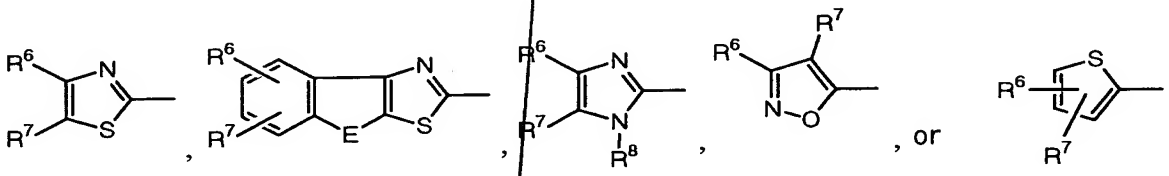
lower alkyl; Q and V are each independently -O-, -S-, -NR^B- (wherein R^B is a hydrogen atom or lower alkyl), or -CH_2-; m is 1, 2, or 3;

a broken line (---) represents the presence or absence of a bond,

provided that X^2 is not oxazole,

its prodrug, or their pharmaceutically acceptable salt, or solvate thereof.

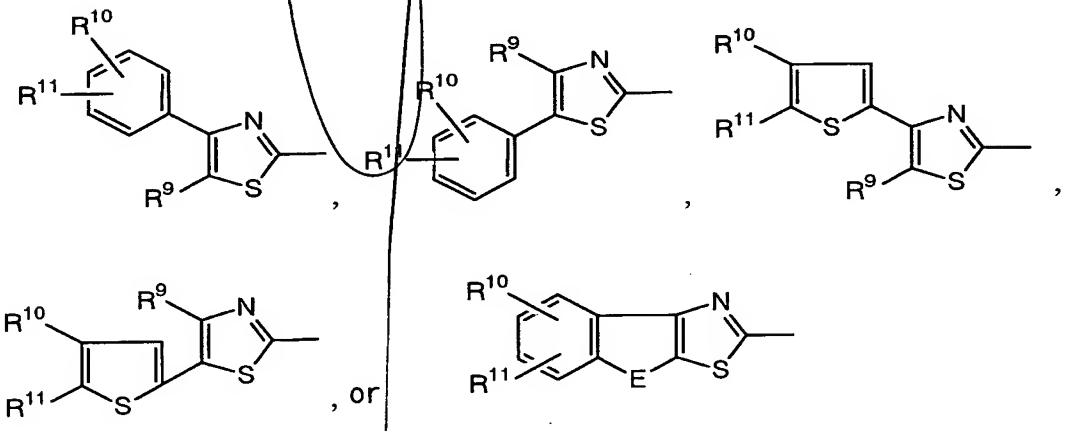
13. A compound of claim 12, wherein X^2 is a group represented by the formula:



wherein E is -$(CH_2)_{1-3}$-, -O-CH_2-, or -S-CH_2-; R^6 and R^7 are each independently a hydrogen atom, optionally substituted lower alkyl, carboxy, lower alkyloxycarbonyl, optionally substituted aminocarbonyl, optionally substituted thienyl, or optionally substituted phenyl; R^8 is a hydrogen atom or lower alkyl,

its prodrug, or their pharmaceutically acceptable salt, or solvate thereof.

14. A compound of claim 12, wherein X^2 is a group represented by the formula:



wherein E is as defined in claim 12;

R^9 is a hydrogen atom, optionally substituted lower alkyl, carboxy, lower

alkyloxycarbonyl, or optionally substituted aminocarbonyl;

R^{10} and R^{11} are each independently a hydrogen atom, halogen, carboxy, lower alkyloxycarbonyl, optionally substituted aminocarbonyl, nitro, or optionally substituted amino,

its prodrug, or their pharmaceutically acceptable salt, or solvate thereof.

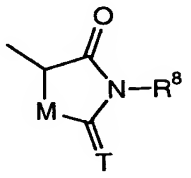
15. A compound of any one of claims 12 to 14, wherein Y^2 is -NHCO-, -CONH-, $-NHCH_2-$, or $-NHSO_2-$,

its prodrug, or their pharmaceutically acceptable salt, or solvate thereof.

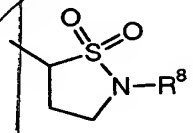
16. A compound of any one of claims 12 to 15, wherein Z^2 is 1,4-phenylene,

its prodrug, or their pharmaceutically acceptable salt, or solvate thereof.

17. A compound of any one of claims 12 to 16, wherein A^2 is a ring represented by the formula:



or



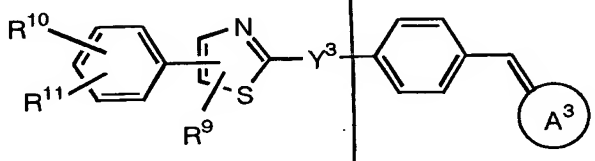
wherein R^8 is a hydrogen atom or lower alkyl; M is -S-, -O-, $-N(R^c)-$, or $-CH_2-$ (wherein R^c is a hydrogen atom or lower alkyl); T is an oxygen atom or a sulfur atom,

its prodrug, or their pharmaceutically acceptable salt, or solvate thereof.

18. A compound of any one of claims 12 to 17, wherein the broken line represents the presence of a bond,

its prodrug, or their pharmaceutically acceptable salt, or solvate thereof.

19. A compound represented by the formula III-A:



(III-A)

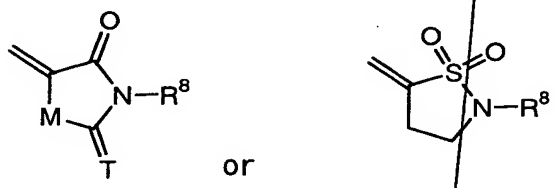
wherein, R^9 is a hydrogen atom, optionally substituted lower alkyl, carboxy,

lower alkyloxycarbonyl, or optionally substituted aminocarbonyl;

R^{10} and R^{11} are each independently a hydrogen atom, halogen, carboxy, lower alkyloxycarbonyl, optionally substituted aminocarbonyl, nitro, or optionally substituted amino;

Y^3 is -NHCO- or -CONH-;

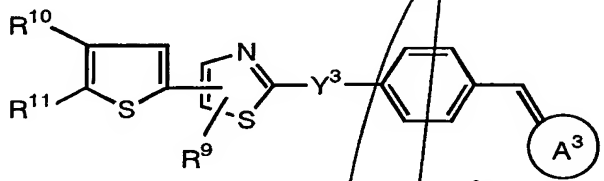
A^3 is a ring represented by the formula:



wherein R^8 is a hydrogen atom or lower alkyl; M is -S-, -O-, -N(R^c)-, or -CH_2- (wherein R^c is a hydrogen atom or lower alkyl); T is an oxygen atom or a sulfur atom,

its prodrug, or their pharmaceutically acceptable salt, or solvate thereof.

20. A compound represented by the formula III-B:



(III-B)

wherein R^9, R^{10}, R^{11}, Y^3, and A^3 ring are as defined in claim 19,

its prodrug, or their pharmaceutically acceptable salt, or solvate thereof.

21. A pharmaceutical composition containing a compound of any one of claims 12 to 20 as an active ingredient.

22. A pharmaceutical composition which contains as an active ingredient a compound of any one of claims 12 to 20 for exhibiting thrombopoietin agonism.

23. An agent for treating or preventing hemopathy which contains as the active ingredient a compound of any one of claims 12 to 20.

24. A pharmaceutical composition containing as the active ingredient a

compound of any one of claims 12 to 20, which is a platelet production modifier.

25. Use of a compound of any one of claims 12 to 20 for preparation of a pharmaceutical composition for treating hemopathy.

26. A method for treating hemopathy of a mammal, including a human, which comprises administration to said mammal of a compound of any one of claims 12 to 20 in a pharmaceutically effective amount.